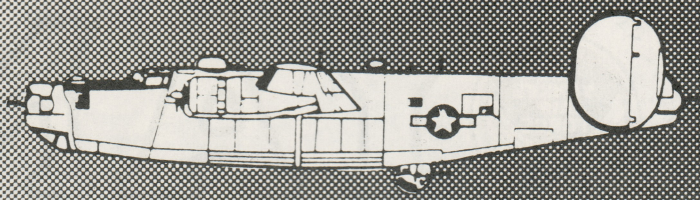
YANKEE WINGS

Yankee Air Force RF-84 Thunderflash, acquired in 1987 and currently on static display in front of the hangar, provides an interesting study for the Holiday Season.

VOL. 6 NO. 11 OFFICIAL PUBLICATION OF THE YANKEE AIR FORCE, INC. DECEMBER, 1987

Yankee WINGS



Official Publication of The Yankee Air Force©

Quo Vadis YAF?

by Jim Hanford

The literal translation of that classic movie title, *Quo Vadis*, is "Where are you going?" It strikes me as a timely question for the YAF, since this year-end issue is devoted primarily to the question, "How far have we come?"

In an effort to provide a complete overview of your organization at year's end, we requested for publication year-end reports from the National President and Treasurer, the Directors heading the major groups (Administration, Museum, and Operations) and the four Division Presidents. By press time we had received seven out of nine responses which, in view of the short lead time, is commendable. As you read them, we hope you'll get a clearer picture of the YAF's accomplishments, strengths and weaknesses as these leaders see them. I think they've answered the question, "How far have we come?"

Which brings us back to *Quo Vadis*. One point is clear: our organization has outgrown its original mission; *i.e.* a group of Southeast Michigan aviation enthusiasts who banded together to obtain and restore a B-24 bomber. We did it when we chartered our first division, and again when we purchased a flyable aircraft. A moment's thought would produce several more proofs.

One participant in a meeting of staffers from various Air Force Base museums commented recently that he detected evidence of a rift between two camps of museum people, which he described as "buffs" and "managers". "Buffs", he wrote, "know all the details about history and aircraft ... managers know sound practices and methods to make museums viable to the public ... An aerospace museum that is overly managed by non-buffs will be sterile; a buff museum will be so technical it will appeal only to buffs and alienate the public."

I suggest that his comments apply as well to the entire YAF membership, since we are all involved in the acquisition, restoration and display of aircraft. If his theory about buffs and managers is accurate, it would behoove us all to examine ourselves and decide how we fit in. Then we should resolve: (1) to understand where our fellow members are coming from, and (2) to try harder to work effectively with each other. I think I know where we are going – do you?

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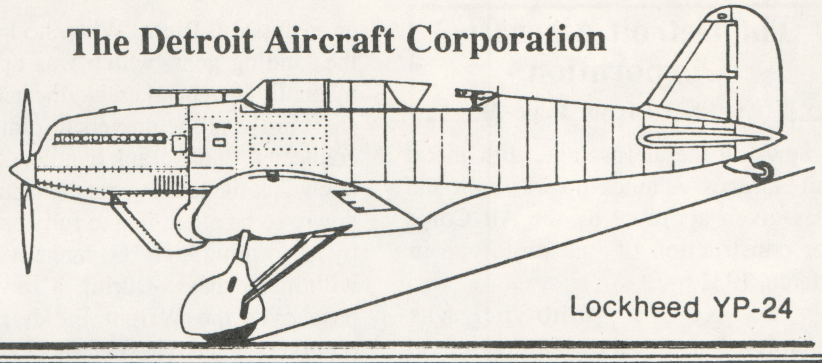
Michigan's Aviation Heritage

by ROBERT F. PAULEY

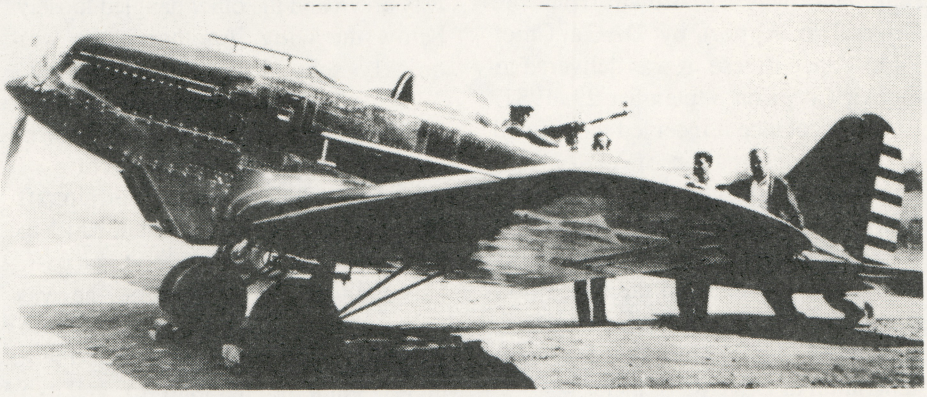
The Detroit Aircraft Corporation



The Detroit Aircraft Corporation

A holding company known as the Detroit Aircraft Corporation (DAC) was formed in May 1929 with a capitalization of $20,000,000 by a group of prominent Michigan automotive and aviation executives. Their objective was to form a "General Motors of the Air," with headquarters in Detroit and plans to apply automotive manufacturing techniques to the aircraft industry. DAC was an outgrowth of the Aircraft Development Corporation, which at that time was building the all-metal ZMC-2 dirigible for the U.S. Navy at Grosse Ile, Michigan. The DAC Executive Committee was headed by Edward S. Evans, President, and Harold H. Emmons, who had been in charge of the Aircraft Production Board and the Liberty engine program during WWI, as Chairman of the Board of Directors. Directors included William B. Mayo of Ford Motor Co., Charles F. Kettering and C. S. Mott of General Motors, R. E. Olds, R. D. Chapin and other wealthy executives active in the automobile and aviation industries.

By mid-1929 the corporation had acquired the assets of several well-known aircraft manufacturers, either through an exchange of stock or by outright stock purchases, forming what would be called, in today's financial jargon, a conglomerate. The individual companies that became part of DAC were the Aircraft Development Corporation; the Ryan Aircraft Corporation in St. Louis, builders of Charles Lindbergh's "Spirit of St. Louis" and the popular Ryan Brougham; the Eastman Aircraft Corporation of Detroit who built the "Sea Rover" flying boat; the Blackburn Aircraft Corporation, a British company established in 1909 which built large, all-metal flying boats; the Lockheed Aircraft Corporation in Los Angeles, which built the popular Vega transport aircraft; and miscellaneous properties such as the Grosse Ile Airport and the Parks Air College. All in all, it was a most formidable group of aircraft manufacturers, of which the Lockheed Company was without a doubt the most valuable asset. Unfortunately, the year 1929 was not the best of times for any kind of financial venture. The future looked bleak for DAC after the collapse of the stock market only six months after the company had been formed.



The Detroit-Lockheed YP-24 two-place fighter, seen here at Grosse Ile Airport. Test pilot Vance Breeze is standing at far right.

(Pauley Collection)

Lockheed was the brightest star in the new organization, and despite the depression that existed in 1930, the Lockheed Company continued to build and sell the popular high-wing Vega. In 1930, Lockheed introduced the low-wing Sirius and the Altair, which was similar to the Sirius but with a retractable landing gear. All of these designs used Lockheed's patented, moulded plywood monocoque fuselage, and the same wooden wing, mounted in either the high-wing or low-wing position.

In the meantime, the Detroit-Lockheed Branch, located at 115 Joseph Campau, near Jefferson Avenue in Detroit, had designed an all-metal fuselage for the Vega. This design was introduced in 1930 in the DL-1 model. ("DL" stood for "Detroit-Lockheed".) Thirteen "metal Vegas" and one Sirius with a metal fuselage were built by DAC, and all used the original wooden wing built by the California Division and mated to a Detroit-built fuselage.

One other airplane was designed and built by DAC, and it generated much interest from staff officers of the U.S. Army Air Corps. It was a company-funded project for a two-place pursuit plane known as the Detroit-Lockheed XP-900. Designed by Robert J. Woods, Chief Engineer of the Detroit Division, it incorporated a wooden Altair wing from the California Division attached to

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The Detroit Aircraft Corporation

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a new, all-metal fuselage with metal tail surfaces. A mock-up was built and was given approval by the Air Corps for construction of one prototype in March, 1931.

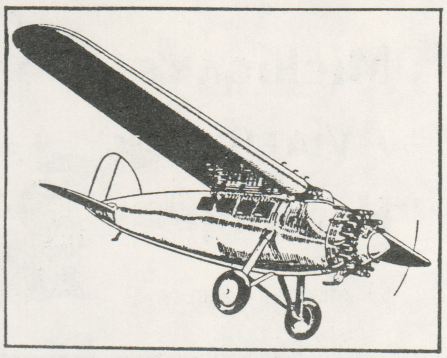
The XP-900 prototype was completed in a very short period of time, and was test-flown from the Grosse Ile Airport by DAC's Chief Pilot, Vance Breese. It was delivered to the Air Corps on September 29, 1931. Upon acceptance it received the official Air Corps designation of YP-24, and was flown to Wright Field in Dayton, Ohio, for evaluation and testing. The YP-24 was the Air Corps' first monoplane fighter, and the first to be equipped with a retractable landing gear. It marked the beginning of a new generation of USAAC fighters.

The YP-24 had an overall length of 28 ft. 9 in., and a wing span of 42 ft. 9 in., producing a wing area of 292 square feet. It was powered by a 600 hp Curtiss V-1570-23 Conqueror V-12 engine which gave it a top speed of 215 mph, a rate of climb of 1820 feet per minute at sea level, and a service ceiling of 26,400 feet. The gross weight of the aircraft was 4360 lbs., and it weighed 3010 lbs. empty. The two-seater was equipped with one .30 cal. machine gun for the rear-facing gunner, plus one .30 and one .50 cal. MG firing forward through the propeller arc. It carried 75 gallons of fuel, giving it a range of 556 miles. The prototype carried Air Corps serial number 32-320, indicating that it was the 320th aircraft purchased by the Air Corps during 1932.

The Air Corps was very pleased with the new fighter and testing continued at a rapid pace. The YP-24 was 20 mph faster than the USAAC's first-line fighter of the day, the Curtiss P-6E biplane, and 40 mph faster than the two-seat Berliner-Joyce P-16, also a biplane.

Then trouble was encountered on October 19, 1931, as test pilot Lt. Harrison G. Crocker was returning from an evaluation flight. When he lowered the landing gear, which was operated manually by a hand crank, the actuating shaft broke at the universal joint which connected to the crank handle. Crocker knew that the landing gear was partially down, so he attempted to fully extend it by performing high "G" maneuvers, but without success. During a low level pass over the Wright Field, ground observers noted that one wheel was part way down and the other dangled loosely below the wing. Another plane was quickly sent aloft with the words, "Wheels half down" written in chalk on the side of its fuselage to inform Crocker of the problem. (This, of course, was before the days of aircraft radios.) Crocker tried more aerobatics to lower the gear, again without success. However, by flying inverted, he was able to get both wheels retracted into the wheel wells so he locked them there. Then he decided to make a wheels-up landing, but as he lined up and commenced his approach, ground personnel waved him off. The Commanding General of Wright Field's Material Division had arrived on the scene and had decided that a wheels-up landing would be too dangerous. A second aircraft was sent up, this time with the chalked message, "General says jump." In the military service one quickly learns that it is always best to obey orders, so Crocker turned toward the nearby Fairfield Air Depot, climbed to 4,000 feet, and bailed out. With no hands on the controls, the YP-24 spiraled slowly down and crashed at 200 mph into an open field. Test Pilot Crocker landed uninjured in a nearby field, safe but disappointed that he was not allowed to try the wheels-up landing and hopefully save the aircraft. Thus, the Detroit-Lockheed YP-24 came to an unfortunate end with only 20 hours of flying time in the aircraft's log book.

The Air Corps, however, was not displeased with the YP-24 design. It was fast, it handled well and it had the potential of becoming a first class fighting machine. An order was issued soon after the loss of the prototype for five more YP-24's plus an additional



1927 Lockheed Vega

order for five attack versions of the aircraft to be known as the YA-9. Unfortunately, the Detroit Aircraft Corporation was in deep financial trouble at that time because of the Depression, and on October 23, 1931, it closed its doors and went into receivership.

Following the collapse of the Detroit Aircraft Corporation, Chief Engineer Bob Wood and some of the designers who had worked on the YP-24 Project moved on to Consolidated Aircraft in Buffalo, New York. There they designed a new airplane that was submitted to the Air Corps. It was very similar to the original YP-24, but had more streamlined contours and incorporated an all-metal wing instead of the plywood Lockheed design. The Army liked the new offering and issued a contract for two prototypes. Consolidated then built one two-seat fighter, known as the YP-25, and an attack version of the same aircraft, designated the YA-11.

After testing and evaluating both aircraft, the Army issued a new contract for four more of the fighter version, this time powered by a Curtiss V-1710 engine with a supercharger that produced 675 hp. This new design was given the designation P-30.

There followed still another contract, awarded in December 1934, for 50 improved models which were assigned the designation P-30A (and subsequently redesignated PB-2A, for "Pursuit, Bi-place"). About this same time, Consolidated moved its facilities to a new and larger plant in San Diego, California, where this order was completed. As a matter of interest, Bob

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The YAF Year End Report

President's Report on Founders' Day and Air Show

by Harry Terpstra

When the YAF was informed that the Willow Run Air Show was scheduled for October 3-4, and that we were to coordinate our Founders' Day event with the air show, our first reaction was, "How can this arrangement ever be successful?" Not only was there concern that bad weather would result in a financial loss, but also whether Founders' Day would be "lost" in the activities surrounding the air show.

Founders' Day

Overall the dual event turned into a major success, thanks in large part to the response from our members who got behind the project and overcame many obstacles. The Founders' Day dinner-dance on Saturday evening was not a major fund-raiser, but those who attended had a good time. We received over $3,000 in donations for the B-25, and over $1,000 for the B-17. We unveiled the Donor's Honor Board for both aircraft. The most excitement came as we ceremoniously presented to Glenn Lamont a check in the amount of $90,000 to purchase his B-25. Glenn in turn made some remarks and presented the key for the bomber to the YAF.

Willow Run Air Show

Although the weather was cold and windy, the public response was also great. On Sunday the crowd was so large that the gates had to be closed. Wayne County officials estimated the Sunday crowd at 45,000 paid attendance, and total attendance for the two-day show at 70,000. YAF participation fell into two categories: direct support to the air show promoters and YAF activities. Examples of the former were ticket pre-sale, security, ramp crew, beer tents, air show office help and coordination of the warbirds. Warbirds present included the B-25, P-51, Yale, AT-6s, PT-19s, Stearmans and the YAF display aircraft. The YAF received from the promoter over $7,000 for this work.

YAF activities included special displays, a gift shop on the air show, flight line, food sales, museum tours and selling photos of visitors in an aircraft cockpit. One new vendor was Domino's Pizza, which provided a welcome alternative to the traditional air show hot dog. On Sunday, we had a surprise visit by the owner of Domino's Pizza, Tom Monaghan. He literally dropped in via the Domino's helicopter, accompanied by George Griffith, the former Hydra-Matic plant manager, and the head of Domino's Flight Department, Jim Brigmann. As part of their visit they toured the B-25, C-47, B-17 and PB4Y Privateer. Our security group is to be commended for their reaction to this unexpected VIP visit. It is another example of the YAF maturing.

YAF activities added nearly $10,000 to the general fund, for a net total of nearly $17,000 for the weekend. All those YAF members who donated their time and efforts may rightly feel proud of the results. A special thanks goes to Rosie Goodes and her coordinating committee, Bette Watson, Lee Bassett and Barb Sutton for their patience, perserverence and long hours which turned a difficult situation into a solid success. Also noted is the participation of members from the Mid-Michigan, Saginaw Valley and Northeast Divisions. This event shows what an all-volunteer group like the YAF can do when we are determined to succeed.

The Operations Group

by Todd Hackbarth

EDITOR'S NOTE: The Operations Group is responsible for the operation, maintenance and disposition of YAF aircraft and equipment, as well as support areas including Retail Sales, Public Relations, Security and the Ramp Crew. Operations Group Directors include Todd Hackbarth, Chairman, and Lee Bassett, Louise Greenwald, Walt Hart and Bill Wier.

The Operations Group of the Yankee Air Force had a very busy and successful year and all indications point to an even busier and hopefully very productive 1988.

C-47 Operations

Our C-47 *Yankee Doodle Dandy* attended 17 airshows or fly-ins, participated in four fly-bys and attended one dedication ceremony. It has accumulated over 80 flight hours during 1987 without one cancelled flight due to a mechanical problem. A number of new pilots, mechanics and gift shop staff members were trained and employed during this very busy season. At one point this summer, the C-47 had gone to an airshow on ten consecutive weekends.

The C-47 generated approximately $12,000.00 in net income above all expenses through gift shop sales, C-47 tours, airshow appearance fees, etc. An estimated 10,000 people toured the aircraft while it was on static display. The membership committee was represented at virtually every event, helping spread the word about the YAF to the hundreds of thousands of people who saw and admired our flagship during 1987.

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The Operations Group

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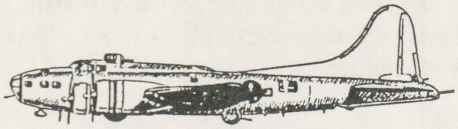
B-25 Acquired

The North American B-25D *Gallant Warrior* was acquired from YAF member Glenn Lamont and was delivered to its new home on October 31st. The training of flight, maintenance and ramp crews has just begun under the able leadership of Glenn, who owned and flew the *Warrior* for many years. The ship is in excellent shape and will join the C-47 on the airshow circuit in 1988.



B-17 Restoration

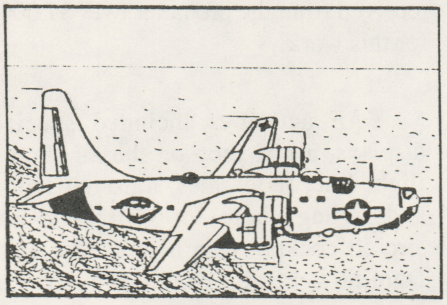
Although it may not look like it, a great deal has been accomplished in restoring the B-17G, *Yankee Lady*, to her former glory. The aircraft currently stands on its gear, shorn of its control surfaces, vertical and horizontal fins, outer wing panels and many of its internal components. Although a firm completion date has not yet been projected, all involved with her agree the *Yankee Lady* will be another award winner to make us all proud when she is finished.

The restoration volunteers have been divided into specialist crews such as powerplant, electrical and sheet metal. Each area is headed by an experienced A & P mechanic. Many parts have been removed, inspected, cleaned and repaired and are now in storage until the time comes for them to be reinstalled. A B-17 parts room has been established and each part in it has been inventoried and its status and location entered into a computer. A room for the electrical crew has also been allocated and the crew has begun the difficult task of building up wiring looms in preparation for completely rewiring the aircraft. ***(Editor's Note:** Please see related article, "Everything You Want To Know About The B-17," for a detailed status on the B-17 restoration.)*

Numerous B-17 crew members have attended the B-17 co-op meetings that have been held in Florida and Arizona at their own expense in order to gain valuable information which will help them immeasurably. The co-op is made up of various owners, operators and caretakers of numerous flying and static B-17s and is a way to exchange information on parts, maintenance and operations of these museum pieces.

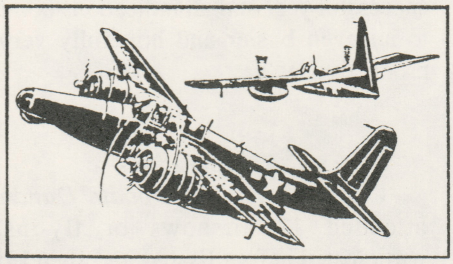
Static Exhibit Aircraft

Not all of the hard work that was done on aircraft this year was directed toward our flyable fleet. The static display planes also received considerable attention. Among the most notable accomplishments has been the remarkable resurrection of the PB4Y-2 Privateer. When it was acquired last year it was found to have been cut apart into five main sections along with many smaller components. The aircraft

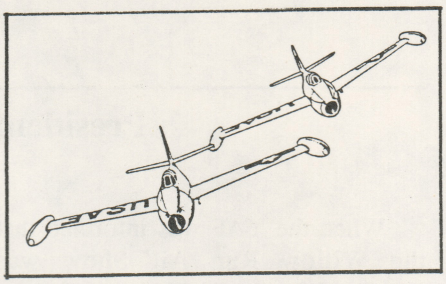


has now been substantially pieced back together and is well on its way to joining our growing static display fleet.

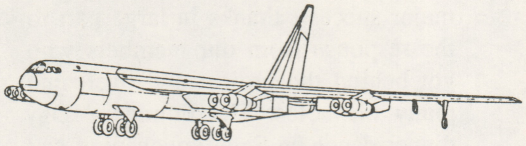
The F7F Tigercat has received some preliminary corrosion control and has had its markings repainted to make it a



more interesting exhibit while undergoing further restoration efforts. The F11F Tiger, T-33, and F-84F have all received attention to their exteriors in preparation for receiving repaints in 1988. The T-33 will be painted in



Michigan ANG (191st F.I.G.) colors and the F-84F will receive the camouflage markings it once wore while serving with the Indiana ANG. The RF-84K continues to receive attention from its dedicated restoration crew and slowly but surely is going back together. The B-52 has had its interior repainted and attention is now turning to its exterior which is badly in need of a paint job. The nose radome



has already received a new coat of paint, and the wheel wells have been enclosed to keep the birds and vandals out.

The acquisition of aircraft slowed considerably in 1987. Of course, the biggest news was the purchase of the B-25 which was mentioned earlier. Another addition to our fleet of static display aircraft was made with the recovery of an RF-84F Thunderflash reconnaissance jet fighter. This plane had been on display outside a factory at I-94 and Haggerty for many years. It was towed intact down side streets and frontage roads for about 10 miles before arriving at the museum. The aircraft was in good shape and has since received a repaint in the camouflage colors it had while serving with the Michigan ANG. The TF-102 jet which was located in Florida is in the process of being transported to the museum by truck. The aircraft was disassembled in 1986. The right wing has arrived with the left wing and fuselage to follow hopefully within the next few months.

Ground Support Equipment

The crew in charge of the ground equipment has been busy this past year.

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The Operations Group

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Besides maintaining our ever-growing fleet of tugs, power units and other equipment, they have rebuilt two engine preheaters and an engine hoist which were obtained from the federal surplus property agency. A road grader which was loaned to us was put back into operable shape after considerable effort and has been used to level out additional land for our static display aircraft. A program has begun to repaint much of this equipment to present a more uniform and professional look.

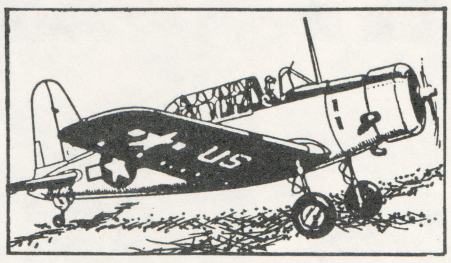
Support Groups

The ramp and security crews have each had a very safe, productive and successful 1987. Both were deeply involved with all of the special events that took place at Willow Run, and they also participated in other outside airshows. Both crews continue to provide training of their members, so that they are better prepared to perform their duties in a safe and professional manner.

The photography committee has undergone a reorganization and we are presently looking at ways in which their efforts can be most beneficial to the organization. Besides providing photos for the various committees and publications, they have begun to set up numerous display boards around the hangar which show the member and visitor alike many of the activities that have taken place during the year.

The public relations committee has been very successful in making the general public more aware of our organization. One method has been the display of the museum's Ford Trimotor in numerous parades in Michigan. It has garnered numerous awards and trophies and the marchers all agree that they were very well received by the public. A speakers' bureau has been organized under this committee and several members have given presentations to various groups and organizations.

The Gift Shop experienced a growth in sales of approximately 25% over 1986, with gross sales figures for the first nine months of '87 equalling about $42,000.00. The gift shop is staffed 6 days a week and the number of trained qualified personnel has been increased to handle the increased workload at the museum and at the many airshows in which the YAF has participated.



Divisional News

Mid-Michigan Division has moved their BT-13 under restoration into a hangar at Saginaw's Harry Browne Airport. Division President Joe Oberlee also reported that the referendum on expansion of the Bishop International Airport in Flint passed, and work has begun on an air freight terminal. As a result of the construction, there may not be a Flint airshow in 1988.

Saginaw Valley Division is assisting a local EAA chapter with the construction of a replica of the Ford "Fliver" which, upon completion, will be donated to the EAA Museum. Assembly has been completed of the wing for their L-2, although there remains the manufacture of some bearings and other small parts. The date, "14 Dec. 1942" was stamped on a wing rib which was replaced. Members are looking for a front aluminum intake elbow and an exhaust stack assembly for the L-2's Continental A-65 engine. Their SNB-1 has been steam cleaned, and portions of the retractable landing gear have been removed for restoration.

Northeast Division is excited over the arrival of their Percival Pembroke on October 25. It is intended to obtain an airworthiness certificate and to repaint the aircraft in a Belgian Air Force scheme, hopefully in time to participate in the 1988 airshow circuit.

The report from the WI/IL Stateline Division noted that their 1988 annual fly-in is scheduled for August 21. A propeller which was obtained from the Willow Run Division was determined to be too corroded for use on their AT-11 restoration project and will be used for display.

The Museum Group

by Barbara Sutton
Chairman, Museum Group

Directors: Barbara Sutton, Chairman, Bill Wier, George Whitfield, Lee Bassett and Harold Sherman.

The museum group has developed plans for improvement of several major areas and has seen progress in some of them. Our use of the facility is always changing to fit our organization's growth so nothing is permanent. We must stay flexible and make best use of our facility now, while remaining ready to adjust as our needs change.

The museum display area, 2nd floor west, has made steady progress under leadership and crew who have been consistent and dependable. The museum lost a valuable member and friend when Don Richter succumbed to cancer in July. The coordination of the WWI Room was filled by Ken Larson, who was a good friend of Don's, and the progress continues. The library has moved from its second floor location to make space for a larger artifacts storage room and a cataloging office. The old artifacts room between the B-24 and WWII rooms is now a uniform display room. It contains uniforms from WWI to the present, which will be protected by glass panels. New display cabinets and stands have been added and a rotation of exhibits gives the whole display area a fresh look. The stairway from the gift shop entrance has been renovated and painted and the upper hallway will soon be finished and

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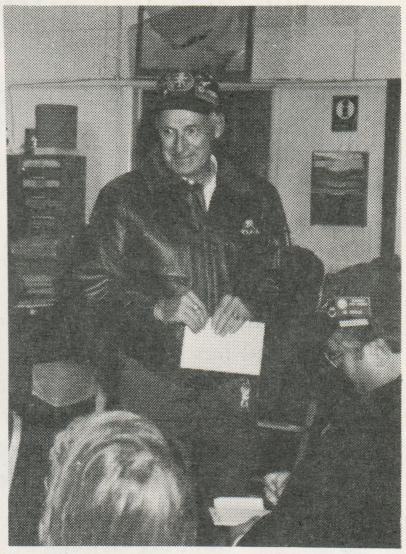
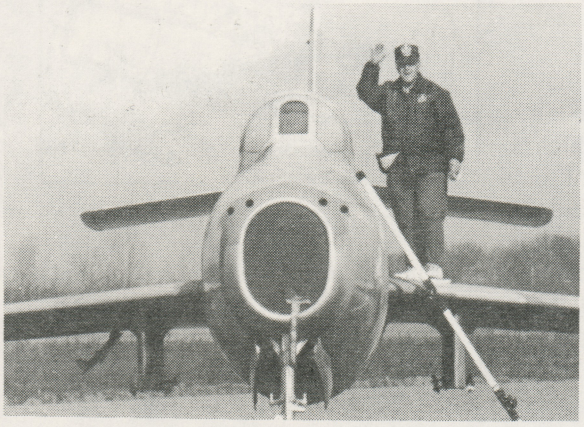
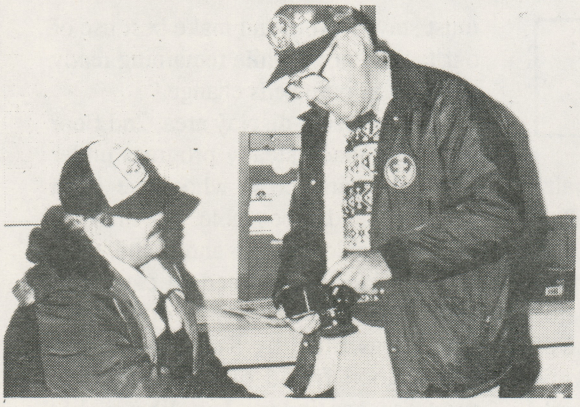
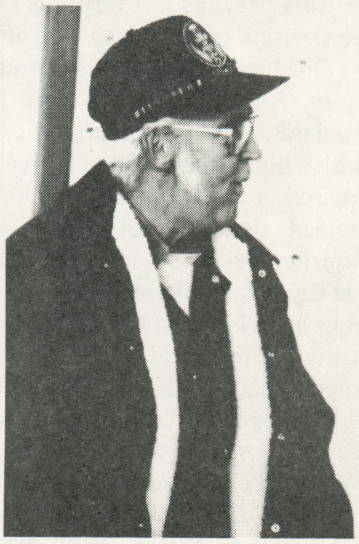
Yankee WINGS
THE PHOTO SECTION









The Museum Group

(Continued from Page 7)

painted. The display theme for the hallway is still being planned. Military patches are on exhibit at the top of the stairway.

The library is in temporary quarters on the first floor west, which presents a frustrating situation. With a staff of only one, Harold Sherman, there is a tremendous backlog of donations of books and manuals, etc. which must be entered into the records. Plans have been drawn up for a new library location on the 2nd floor east, but there will be a delay pending manpower and funds before we can get started. We hope spring will see progress. (Please see related article, "The Library Needs Help!," elsewhere in this issue.)

Our outside aircraft display area is being enlarged and designed under the guidance of Lee Bassett and Bill Wier. It has been leveled, filled, leveled again, and now seeded. When the ground is frozen, some aircraft will be moved into place. George Whitfield made the contact which got all the free fill dirt that was so badly needed.

The maintenance and operation of our hangar is a big challenge and a continuous job. The eating area (the "Dog House") is being enlarged by the removal of two storerooms and will become the new meeting room. The old meeting room has been divided into the B-17 wiring room and additional hangar floor space. Much work has been done on the kitchen this year. A good clean-up and paint job was done early this year and now a new storeroom, connecting to the kitchen, has been built to replace the two that were removed. We now have everything close at hand for the kitchen crew.

The efficient use of floor space is a continuous challenge; allotting space for the B-17 restoration, the C-47 and the B-25 along with the display aircraft and the flying aircraft is no easy task. New lights have been installed in the hangar bay; seven 1,000 watt lights now hang from the rafters, making it possible to work during the long winter nights and see what you are doing.

Wiring is being improved and updated in the area of the kitchen and new meeting room and insulation and new drywall will be installed. The first phase of a new heating system is being implemented. Natural gas was brought to the building in 1985 and we are now beginning to convert our heating plants. The plan will take some time to complete because of cost. It will develop a section at a time.

We are obligated to provide better access for the handicapped and one step is to remodel the men's room. It will become "Unisex Handicapped" as well as for men's use, and the plan has been approved by the plumbing inspector. Again we need manpower and money to get it done.

Plans are also being formed to take out the old boilers and make better use of that building. This is another winter project to think about. It should be apparent that there is still much to do to make the best possible use of our building. A related article, "How You Can Help," presents needs and opportunities in the Museum/Hangar Group.

WI/IL Stateline Division

by Kevin Wixom

This year, as in every other year, the Division grows to new heights.

Our biggest event was our annual fly-in, August 23rd. To some fly-in standards, ours is not a large one, but it is the biggest one in our area. We grossed a bit over $4,700.00. Our biggest rise in profit was giving airplane rides. We had over 82 flights that day in four different aircraft ranging from an AT-6 to a Cessna 170. Next year we hope to add two more aircraft. Approximately 3,500 people attended. They enjoyed the concession stand and seeing our warbird display that even had a P-51 and a Hawker Sea Fury.

The other fundraising event we had this year was the big band dance in January. It was not very big in terms of dollars raised but a good time was had by all. We will hold this dance again on January 30, 1988, with a jitterbug contest added.

Most of our work this year was done on our Beechcraft AT-11. The landing gear was reinstalled with many new parts, including new brakes. This winter we are working on the tail section. To achieve airworthy shape, we had to remove the rear spar from the horizontal stabilizer. The reason, as in many 40-year-old airplanes, is corrosion. Our AT-11 doesn't have corrosion that bad yet, but since we have a lot of parts removed, now is the time to clean it up before it gets real bad. We were advised by both Beechcraft and the F.A.A. that it would be OK to fly without the spar-strap that is required in the A.D. note as long as we x-ray it about every 150 hours. Our next step is submitting it to the F.A.A. Engineering Dept. for the final OK.

One of our members has taken on the task of restoring the Emerson B-24 nose turret. This should be a great display for future events.

This is an election year, although we had not voted at the time of this report. We will have a new President and Vice President.

Our Division can't do as much as we would like because of our small membership. We really want to work on this area in 1988. The things that we do are real quality!! Our goals are like everyone's in this fine organization: to preserve and maintain WWII Aircraft in flying status. We all know that when they're gone, they're GONE. Together, let's all keep up the good work.

Mid-Michigan Division

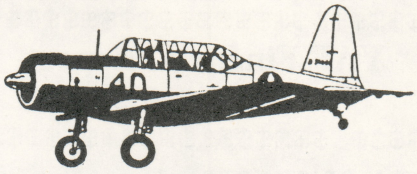
by Joe Oberlee

EDITOR'S NOTE: The Mid-Michigan Division general membership meetings convene at 7:00 pm, the second Wednesday of each month at the Bishop International Airport. Joe Oberlee, Tel. (313) 238-3088, is Division President and newly-elected National Director.

The membership of the Mid-Michigan Division started 1987 on a happy note. Negotiations with the airport manager at Bishop International Airport resulted in a meeting room and office with a very favorable rent – FREE! We even have access to the old control tower. The glass up there is a little opaque, but the view is great for dyed-in-the-wool aircraft watchers such as we are. We have really enjoyed our Headquarters this year. It makes the meetings so much better. The recent passing of the millage proposal to establish an Airport Authority should mean great things for all involved with life at Bishop International Airport.

Many of our most active members spent spring preparing for the airshow season. MMD members were found at virtually every area event this past season. Ramp Crew Red, Security Green, and General Member Whites are some of our favorite colors. The season finale at the Willow Run airshow saw our members selling a lot of beer to people too thirsty to notice the cold or the Blue Angels. We got lots of nice compliments on our Division patches and pins; the MMD logo is now seen around the country. The Flint airshow always takes a lot of our attention. Assistance from our brothers and sisters of the Headquarters and Saginaw Valley Divisions was well appreciated. Thanks again.

We tried a few new things this year, as well. The Curwood Festival Parade in Owosso, with the Trimotor, got us a front page photo in the local newspaper and some good exposure to a terrific attention getter. We walked proudly, even though the common question was . . . "Is that a *real* airplane?" Anyone who has partaken in the assembly and towing of the Trimotor will all agree – it must be a *real* airplane. Our thanks to the restorers and maintainers of this YAF treasure. The good folks to the north who often wear blue hats with circular patches on the front have



invited us to team up with them in the operation of a fund- raising food trailer. Our first outing, with the members of the Saginaw Valley Division, got us all wet and no real funds. It was still a good learning experience for us. Look out next year!

Some of our members are starting a regularly scheduled trip to Willow Run to work on the B-17. The enthusiasm and pride are great. When we get a hangar of our own, this experience will prove invaluable. We are determined to not let the cold winter dampen our spirits in the quest of the flight of the *Yankee Lady*.

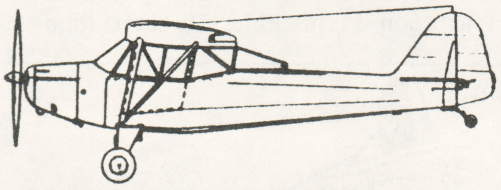
We are very proud of the family orientation we have in the Mid-Michigan Division. We have had a couple of whole family events this past year. We determined that there are no championship bowlers among us. Our better forté was putting away the hot dogs and hamburgers at our second annual picnic. Sorry that it was the hottest day of the year; maybe the weather will be better for the third.

Saginaw Valley Division

by Dr. Fergus Mann

EDITOR'S NOTE: The Saginaw Valley Division (SV) general membership meetings convene at 7:30 pm the third Tuesday of each month at the Harry Browne Airport, Saginaw, Michigan. Mr. Kenneth Pol is Division President. Dr. Mann is a National Director and SV member.

1987 has been a momentous year for the Saginaw Valley Division. With help from the National YAF, we



acquired an L-2, and are now heavily into its restoration. We have been successful in recruiting new members, and have set the pace for other divisions in the YAF. We are now assisting with the possible development of a new division in Gaylord, growing out of our participation in the First Annual Alpine Airshow.

Another high point of the year has been the development of cooperative efforts and joint projects with the Mid-Michigan Division. We have made contributions to the B-17G Fund and to the B-25 Fund.

Our goals for 1988 include restoring our L-2 to flying status and training pilots for it, continuing work on our L-4 and SNB-1 restoration projects, and fostering the development of members in the areas surrounding Grayling/ Gaylord, Tawas, and in the "Thumb" around Caro and Bad Axe. We hope to increase our involvement in projects at Willow Run as well. We are looking forward to sharing in the growth and development of the Yankee Air Force as a museum of truly national status.

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YAF Financial Report

by Kathie Dallape

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***EDITOR'S NOTE:** The following report is based on the organization's financial records as of October 31, 1987. However, it presents a good overall picture of our financial health. Kathie Dallape is the Treasurer.*

The growth of the Yankee Air Force, Inc. has been moving at a fast pace in the financial area. Our assets have grown to $945,259.00. The budget system has kept unnecessary spending to a minimum while also maintaining a favorable revenue status. That the public has become more aware of the museum is evident in the number of paid admissions, which totalled $7,797 thus far this year. It was also a busy and a profitable summer for the C-47 and the gift shop. *Yankee Doodle Dandy* was toured by approximately 4,651 paying visitors at $1.00 each (children are free), and the gift shop realized a net total of $10,526 while doing business under the aircraft's wing.

The special events were also financially sound. Memorial Day netted $11,480, and the Founders' Day/Air Show activities brought in a net total of $11,000. Our membership has also increased this year, which added $40,912 to our revenue. Our money market funds are still intact, and your officers are striving to maintain them that way. Two of the funds are at $10,000; the third is at $3,000. Our liabilities are at an all-time high of $285,952, but with the recent purchase of two fine aircraft (the B-17 and the B-25), this is to be expected.

All donations received for the B-17 are designated for its restoration and donations toward the B-25 are applied to its purchase price. A good reason to keep those donations and pledges coming in is that it relieves the account for operating funds.

National Board Adopts Flyable Aircraft Operating Policy

At the November meeting of the National Board of Governors, a policy covering authorization to pilot YAF aircraft was discussed and approved. Because all divisions are actively restoring YAF aircraft to flying status, the lack of clear policy governing who is qualified and authorized to fly them could lead to a "flying club" situation, which is not consistent with the YAF's mission.

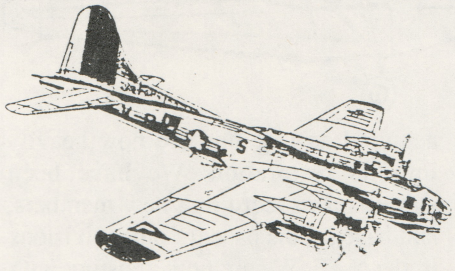
In general, the policy establishes a requirement for each division to produce a "Divisional Aircraft Operations Manual" as well as a training guide for each type of flyable aircraft. The division would next identify their most proficient pilots and designate them as "demonstration airshow qualified" in their respective YAF aircraft and in accordance with appropriate FAA regulations. Flying time to keep these pilots qualified and current should be budgeted by the division.

In other business, President Terpstra requested that all committee chairmen and all potential new chairmen advise him of their interest in serving for 1988 as soon as possible. Director John Snider noted that all committee inventories must be completed and returned ASAP. He also reported that both Mastercard and VISA credit cards are now accepted by Retail Sales. Director Barbara Sutton commented on the status of the hangar remodeling. (Please see the Museum Group's year-end report elsewhere in this issue for more details on the hangar modifications.) She also noted that the heat has been left on overnight, and this not only wastes money but also could deplete the propane supply which could result in frozen water pipes. She recommended that on evenings when the heat must be turned on, nighttime work be limited to groups.

Everything You Want To Know About The B-17

by A Restoration Crew Member

***EDITOR'S NOTE:** A question seemingly on the minds of many readers is, "So what's been happening with our B-17?" The following account is intended to bring us all up to date on the progress of this vital project. Its author asked not to be identified, even though he spent hours in research, writing and checking it thoroughly with the Crew Chief, Fred Lockwood. Anyone interested in joining the B-17 or any other restoration crew is referred to Todd Hackbarth, Tel. 939-5724.*



During the past seventeen months much of our effort has been directed at inspecting and dismantling the aircraft. You may wonder why we are taking the plane apart when it was already flying. Well, even though it may have been physically capable of flight, it was technically not "airworthy". Therefore, when the YAF purchased the B-17 that was to become *Yankee Lady*, we were granted a ferry permit to fly it from Mesa, Arizona to Willow Run, where it would have to be inspected and repaired as necessary to comply with Federal Aviation Regulations. Our ultimate goal is to restore the aircraft to its bomber configuration, complete with turrets, armament, radio room, etc. The immediate and most pressing concern, however, is to make it airworthy again, so that we may take it on the airshow circuit and bring in some revenue to help pay off our loan or otherwise defray the enormous costs involved in

(Continued on Page 13)

Everything About The B-17

(Continued from Page 12)

the continuing restoration process.

In keeping with our goal of restoring the B-17 to a bomber configuration, we have removed all non-standard items that were added for fire-bombing and chemical spraying operations. These included the borate chemical tanks in the bomb bay, spray pipes and additional flooring in the waist section, insulation in the cockpit and nose section and the red exterior paint. The cargo door on the left side of the fuselage will also be removed and that area will later be rebuilt into a waist gunner station as it was originally.

Necessary components that were inoperative, damaged, etc. have also been removed to facilitate repairs. For example, the flaps needed new sections of aluminum skin because of previous improper repairs and corrosion due to chemical exposure. The flap bearings were also frozen and have now been replaced. Fabric on the control surfaces (ailerons, elevators and rudder) was deteriorating and required complete replacement, while some of the underlying structure needed repair and reinforcement. These repairs have been made and the control surfaces are now recovered with the new fabric. The entire procedure will have taken over a year to complete.

During inspection of the empennage (tail section), corrosion was discovered in the castings that attach the horizontal stabilizers to the fuselage. New castings will have to be located before the stabilizers can be reattached. The stabilizers themselves were found to be in good order with the exception of some dents in the aluminum which have since been repaired. We were not as fortunate with regard to the vertical stabilizer. Corrosion had weakened the rear main spar, thus requiring its replacement. This spar was taken out and is being rebuilt from scratch.

All of the B-17's fuel cells have to be removed in order to properly inspect the interior of the wings for corrosion, stress cracks, etc. The inboard and outboard wing sections were separated to allow access to the eighteen long-range (Tokyo) fuel tanks which, along with their connecting fuel lines, have already been taken out. These tanks and lines will not be reinstalled since *Yankee Lady* won't be making any extended flights. Stress panels on the lower surface of the wings provide access to the main fuel tanks as well as an entrance for inspecting the interior of the main wing section once the tanks are out of the way. To accomplish this, however, the B-17's wings must first be supported by jacks so they won't flex out of position when the panels are removed. The main tanks can then be lowered through the openings and inspected.

With the outboard wing sections already removed, we took the opportunity to string new wire for the navigation lights through them. Aluminum skin was also removed from these outboard sections to permit replacement of several corroded aileron brackets. These will have to be built from scratch and installed in the wing. During our inspection we also checked the taper pins that lock the wing sections together to ensure that they are within proper tolerances and have not worn excessively.

At one time in its history, our B-17 had its tail wheel mechanism fail during landing, which resulted in damage to the aft section of the fuselage. We are presently in the process of repairing and/or replacing the ribs, stringers and skin in this area so that a new tail turret assembly can be properly joined to the fuselage. The entire tail wheel mechanism has also been reconditioned and reinstalled in the fuselage.

Fortunately, *Yankee Lady's* engines are not in need of any major overhaul at this time. However, since they won't be running for possibly several years, we performed some minor adjustments, etc. before preparing them for storage. The valve covers on all engines were removed, the valve settings were checked and new gaskets were installed. The engines were also cleaned externally and dessicant plugs were threaded into the spark plug openings. The engines have been "pre-oiled" (pumping oil into the cylinders under pressure) every couple of months to help prevent condensation and corrosion during extended periods of inactivity. Oil tanks located in the engine nacelles and oil coolers in the leading edge of the wings were removed for inspection and cleaning. They will be reinstalled at a later date.

While working on the engines, it was also discovered that the mount for engine no. 2 had been severely chafed by a metal clamp. Because of this, the engine will have to be removed so the mount can be repaired or replaced. The stainless steel firewall behind this same engine also needs replacement because it contains numerous holes, cracks and patches.

In the cockpit, we removed the pilot and co-pilot seats for repainting and to provide additional workspace for performing other repairs. All flight instruments have been removed for overhaul and/or repair. The instrument panel itself was also removed and a new panel will be designed to accommodate the required modern instruments and avionics while retaining as much of the vintage 1945 layout as possible.

The wiring in the cockpit and throughout the entire aircraft was inspected and removed after having been found to be brittle and, in some instances, improperly repaired or rerouted. *Yankee Lady* will be completely rewired in accordance with the original wiring diagrams when possible. This not only simplifies the rewiring task but may also help in any future electrical troubleshooting since the original diagrams will again reflect the actual wiring routes, etc. in our own aircraft. Such rewiring will nevertheless take approximately two years to complete.

In the fuselage, all windows have been removed and will be replaced with

(Continued on Page 14)

Everything About The B-17

(Continued from Page 13)

new plexiglass at a later date. The interior of the fuselage has been scrubbed and washed in preparation for a bead-blasting procedure which will help remove any residual paint or chemicals. Once this is completed, the interior can be sprayed with zinc chromate paint to protect the aluminum from oxidation.

The exterior of the aircraft is presently being buffed to give us a better idea of the condition of the aluminum skin and thus help us decide whether the B-17 should be left natural aluminum or painted olive drab. No decision has yet been made, but either way would be historically accurate.

One can appreciate from this lengthy dissertation that a lot has already been accomplished. Nevertheless, an enormous amount of money and labor is still required to complete the task. Our latest estimates indicate that at least another two years' work will be required to get *Yankee Lady* back in the air. In future editions of *Yankee Wings*, we will keep you informed of our progress.

The Library Needs Help!

Since it moved out of its original location several months ago to make way for an enlarged artifacts room, the library, which is now located on the west side first floor, has been in a state of suspended animation. However, that does not mean that all activity has stopped. Donations of books, manuals, magazines, etc. continue to come in.

Regardless of when the next move takes place, the library needs help now. First of all, the library needs some workers. We need people who would like to help get all of our documents cataloged and onto the shelves so that they can be used.

The second need of the library is equipment. The following are some of the items that we can use: 7 foot tall, 12 inch deep, metal shelving units; 7 foot tall, adjustable shelf, free-standing library bookcases.

Anyone who would like to become part of the library activity or has some equipment that we can use, please contact Harold Sherman or Barbara Sutton or leave word and you will be contacted.

How You Can Help

President Terpstra noted in his Founders' Day/Air Show Report "...what an all-volunteer group like the YAF can do when we are determined to succeed." Whether we ultimately succeed as a major aviation museum will depend largely upon how well we are able to organize and direct our limited resources. Our most important resource is manpower – and in this area there is much we can achieve if we can better identify and match members' talents with YAF needs. Three quite specific personnel needs are the following:

- Corresponding Secretary - to handle routine YAF correspondence and be responsible, with the assistance of the Recording Secretary (see next paragraph) for keeping the minutes of all meetings of the Board of Governors.
- Recording Secretary - responsible for keeping record of all business at the meetings of the Board of Governors, and submitting a written draft to the Corresponding Secretary for Board approval.
- Computer Operations Supervisor - experience with personal computers and who is willing to oversee the YAF computer operations. Our computer has far more capabilities than we are currently getting from it. A supervisor is needed to advise management how best to improve our operation and train the operators.

In addition to the specific needs, there is presently a need for individuals with necessary skills or talents to work in the following capacities:

- Carpenters
- Cooks (Saturday lunch)
- Cooks helpers
- Dry wallers
- Electricians
- Heating Installers
- Housekeeping
- Insulation Installers
- Library Assistants
- Painters
- Plumbers
- Sign Makers
- Tour Guides

Most of the above tasks actually do not involve a large amount of training, but rather a willingness to try. In these cases, consider "trying it" for a specific time, say six months. Alternatively consider trying it with a friend, so you can share responsibilities and work time with someone whose company you already enjoy.

You want to help, but don't know who to ask? First check the list of committee chairmen on the rear cover. If you still don't know, someone in the Membership Office will be happy to help you.

Do You Have Contacts?

If you have contacts in the following areas, which may result in donations or discounted prices, you can also help the YAF save money.

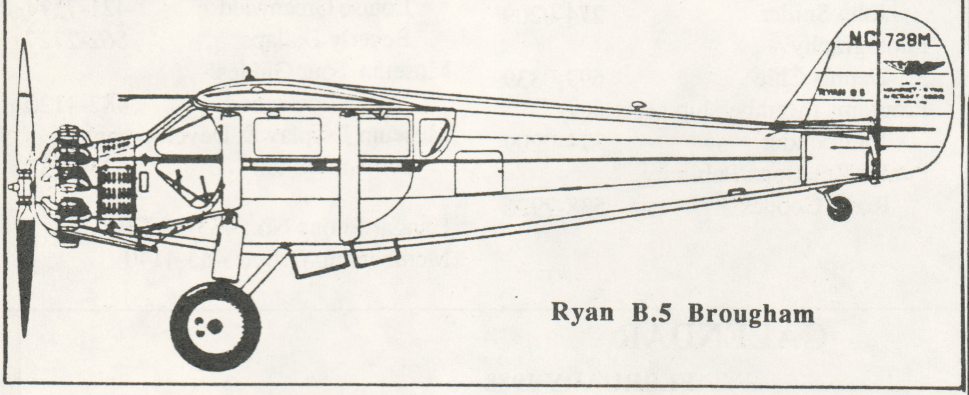
Building materials
Ceiling Tile and related items
Floor Tile
Restaurant-Type Kitchen Equipment
Electrical supplies
Paint
Insulation, Blow in or rolled
Housekeeping products; paper, cleaning, etc.
Food items (for Saturday workers' lunch)
Plumbing or Heating supplies
Office supplies
Automotive Supplies; oil, parts, etc.

If you think you can help in these areas, please contact Barb Sutton, Director, Museum Group, at home (533-7237) or at the hangar (483-4030).

Detroit Aircraft Corporation
(Continued from Page 4)

Wood did not make the move to San Diego. Remaining in Buffalo, he joined Larry Bell, who had just formed Bell Aircraft Corporation which had moved into the old Consolidated plant. At Bell, Wood designed the famous P-39 "Airacobra" series which was used throughout the world during World War II.

So it was that Detroit Aircraft Corporation has a very short history, lasting but two years. Of the limited number of aircraft built by DAC, the YP-24 was perhaps the most significant. Built in an era of fabric-covered biplanes, the YP-24 with its metal fuselage, low-wing design, retractable landing gear and streamlined V-12 liquid-cooled engine, was a forerunner of the fighter aircraft types which served in our Air Force during World War II.



Ryan B.5 Brougham

Membership Report
by Charlie Lingenfelter

The Yankee Air Force is richer by thirty new members who have joined from October 16 through November 30, 1987.

Willow Run welcomes new members 2865 Robert L. Carver, 2866 Ginny Genova, 2867 Ronald Dahlquist, 2868 Earl R. Makolin, 2869 Richard L. Kuhn, 2870 Richard S. Berger, 2872 Michael G. Heroy, 2873 Patrick A. Summerfield, 2874 Duane K. Hover, 2875 Drew Seguin, 2876 David J. Tanier, 2877 Arden Roeske, 2878 Kent Smith, 2879 Alen Wyatt, 2880 Donald W. Torley, 2884 Gary Lee Kervin Sr., 2885 William J. Hirzel, 2886 John Maas, 2887 Keith Jones, 2888 Richard H. Beckman, 2889 M. E. McGlinchey, 2891 Joseph Zalac, 2892 Clifford Cribbs and 2893 Michael W. Alanson.

Northeast welcomes 2881 Stephan Toth, 2882 Dan Rocco and 2883 K. R. Williamson. Saginaw Valley has enlisted 2871 Ed Hult and 2890 James F. Pollard. Wisconsin/Illinois welcomes 2894 Ron L. Johnson.

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Kathy Dallape 477-8011
Membership Staff
Charlie Lingenfelter 563-2947
Fund Raising
Rosie Goodes 538-7926
Security/Fire Prevention/Safety
Tom Shattock 274-4216
Library Staff
Harold Sherman 485-7107
Janitorial/Housekeeping
Barbara Sutton 533-7237
Groundskeeper
Barbara Sutton 533-7237
Legal Advisor
John Snider 274-0209

Hangar Restoration/Operation
Barbara Sutton 533-7237
Publications
Dennis Norton 995-2156
Jim Hanford 562-3283
Special Events
Rosie Goodes 538-7926
Secretarial/Word Processing
John Snider 274-0209
Administration
John Snider 274-0209
Photography
Dennis Chie 699-0339
Programs (Membership Meetings)
John Snider 274-0209
Public Relations/Publicity
Rosie Goodes 538-7926

Aircraft Acquisition
Ralph Gilpin 469-8831
Aircraft Recovery/Restoration
Ralph Gilpin 469-8831
Fred Lockwood 482-4120
Flight Operations (Pilots/Mechanics)
Dick Bodycombe 769-5598
Fred Lockwood 482-4120
Finance/Gift Shop (Sales & Cashiers)
Kathy Dallape 477-8011
Louise Greenwald 421-7374
Beverly Dallape 562-2727
Museum Tour Guides
Nancy Lockwood 482-4120
Museum Display & Development
Barbara Sutton 533-7237

Hangar Phone No.: 483-4030
Membership Office: 483-4140

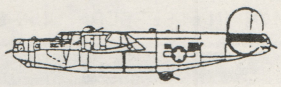
CALENDAR

JANUARY 1988

6 – Headquarters Division General Membership (WR)
6 – Northeast Division Board (NE)
9 – Security Committee - 10:00 (WR)
12 – Saginaw Valley Division Board (SV)
12 – Membership Committee - 7:00 (WR)
13 – B-17 Crew (WR)
13 – Mid-Michigan Division General Membership - 7:00 (MMD)
19 – Saginaw Valley Division General Membership (SV)
20 – National Board of Governors (WR)
20 – Northeast Division Board (NE)
26 – Wisconsin/Illinois Division Board – 7:00 (WI/IL)
27 – Mid-Michigan Division Board (MMD)

FEBRUARY 1988

3 – Headquarters Division General Membership (WR)
3 – Northeast Division Board (NE)
6 – Security Committee – 10:00 (WR)
9 – Saginaw Valley Division Board (SV)
9 – Membership Committee – 7:00 (WR)
10 – B-17 Crew (WR)
10 – Mid-Michigan Division General Membership - 7:00 (MMD)
16 – Saginaw Valley Division General Membership (SV)
17 – National Board of Governors (WR)
17 – Northeast Division Board (NE)
23 – Wisconsin/Illinois Division Board – 7:00 (WI/IL)
24 – Mid-Michigan Division Board (MMD)



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